



09/924,152, 08326, 3737
Attorney's Docket No.: 08326-051002 #6

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Britton Chance
Serial No. : 09/924,152
Filed : August 7, 2001
Title :

Art Unit : 3737
Examiner : Unknown

EXAMINATION OF A BIOLOGICAL TISSUE USING PHOTON MIGRATION
BETWEEN A PLURALITY OF INPUT AND DETECTION LOCATIONS

Commissioner for Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Prior to examination, please amend the application as follows:

In the claims:

Cancel claims 1-47.

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Add claim 48 as follows:

-- 48. (New) A spectroscopic system for imaging biological tissue comprising:
multiple input ports arranged to introduce light at input locations into biological tissue
and multiple detection ports arranged to collect light from detection locations of the biological
tissue,

at least one light source, operatively connected to a radiation pattern controller,
constructed to generate light of a wavelength in a range from visible to infrared, said light source
optically coupled to at least one of said input ports;

at least one detector, operatively connected to said radiation pattern controller,
constructed and arranged to detect light of said wavelength that has migrated in the tissue region
to at least one detection location and corresponding at least one of said detection ports; and

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a processor operatively connected to receive detector signals from said detector and provide an image. --

In the abstract:

Please insert the abstract as follows:

-- A spectroscopic method and system for examination of biological tissue includes multiple input ports optically connected to at least one light source, multiple detection ports optically connected to at least one detector, a radiation pattern controller coupled to the light source and detector, and a processor. The multiple input ports are arranged to introduce light at input locations into biological tissue and the multiple detection ports are arranged to collect light from detection locations of the biological tissue. The radiation pattern controller is constructed to control patterns of light introduced from the multiple input ports and constructed to control detection of light migrating to the multiple detection ports. The processor is operatively connected to the radiation pattern controller and connected to receive detector signals from the detector, and is constructed to examine a tissue region based on the introduced and detected light patterns. --

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Attached is a marked-up version of the changes being made by the current amendment.
Please apply any charges or credits to Deposit Account No. 06-1050.

Date: _____

John N. Williams
Reg. No. 18,948

Version with markings to show changes made

In the claims:

Claims 1-47 have been cancelled.

Please add new claim 48 as follows:

48. A spectroscopic system for imaging biological tissue comprising:

multiple input ports arranged to introduce light at input locations into biological tissue and multiple detection ports arranged to collect light from detection locations of the biological tissue,

at least one light source, operatively connected to a radiation pattern controller, constructed to generate light of a wavelength in a range from visible to infrared, said light source optically coupled to at least one of said input ports;

at least one detector, operatively connected to said radiation pattern controller, constructed and arranged to detect light of said wavelength that has migrated in the tissue region to at least one detection location and corresponding at least one of said detection ports; and

a processor operatively connected to receive detector signals from said detector and provide an image.

In the abstract:

A spectroscopic method and system for examination of biological tissue includes multiple input ports optically connected to at least one light source, multiple detection ports optically connected to at least one detector, a radiation pattern controller coupled to the light source and detector, and a processor. The multiple input ports are arranged to introduce light at input locations into biological tissue and the multiple detection ports are arranged to collect light from detection locations of the biological tissue. The radiation pattern controller is constructed to control patterns of light introduced from the multiple input ports and constructed to control detection of light migrating to the multiple detection ports. The processor is operatively connected to the radiation pattern controller and connected to receive detector signals from the

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detector, and is constructed to examine a tissue region based on the introduced and detected light patterns.